(c) and (d) Government have accorded approval for setting up of two new units each of 500 M.W.E. at Tarapur.

Shutting down of nuclear reactors

1325. SHRI SUSHIL KUMAR SAMBHAJIRAO SHINDE:
SHRI RAJUBHAI A. PARMAR:

Will the PRIME MINISTER be pleased to state:

(a) whether it is a fact that the installed capacity of all the nuclear power plants has been derated and all the reactors are routinely shut down for 4—5 months every year for refuelling and maintenance and have to be often kept non-functional due to varied incidents; if so, the total derated capcity vis-a-vis total installed capacity;

(b) whether critical studies conducted by the Planning Commission have revealed that the atomic power generation is not reliable; and

(c) if so, what share is proposed to be assigned to nuclear power, as against the hydel and thermal power, under the Ninth Five Year Plan?

THE MINISTER OF STATE OF THE MINISTRY OF PLANNING AND PROGRAMME IMPLEMENTATION AND MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI YOGINDER K. ALACH): (a) Details of original design capacity and present rated capacity of the nuclear power plants are given in the following table:—

Sl. No.	Station/Unit	Original design capacity MWe	Year of commissioning	Present rated capacity MWe	Reasons for re-rating
1.	Tarapur Atomic Power Station— Unit—1	210	1969	160	Following isolation of the Secondary steam generators due to tube leaks.
	Unit—2	210	1969	160	
2.	Rajasthan Atomic Power Station— Unit—1	220	1972	100	In view of the light water leak from its end shield
	Units—2	220	1980	200	Due to constraints on both cooling water temperature and reactor para-meters.
3.	Madras Atomic Power Station— Unit—1	235	1983	170	In view of the moderator inlet manifold problem.
	Unit—2	235	1985	170	
4.	Narora Atomic Power Station— Unit—1	235	1989	220	Due to constraints on cooling water temperature and reactor parameters.
	Unit—2	220	1991	220	—
5.	Kakrapar Atomic Power Station—j Unit 1	220	1992	220	—
	Unit—2	220	1995	220	

The TAPS Units 1&2 are of Boiling Water Reactor (BWR) type which require 2 to 3 months shut down for refuelling and maintenance works after

operating for about 18 months. All the other nuclear power plants in the country which are of Pressurised Heavy Water Reactor (PHWR) type have on-line refuelling facility and do not need shut down for refuelling. They need however, a 4 to 6 week shut down every year for maintenance and periodic safety checks as per regulatory requirements.

(b) Planning Commission has not conducted any studies regarding atomic power generation so far.

(c) The ninth plan proposals for nuclear power sector have not yet been finalised by the Government.

During the ninth plan period, the nuclear power projects currently under construction with a total capacity of 880 MWe, comprising Kajge Atomic Power Project Units—1&2 and Rajasthan Atomic Power Project Units—1&2 are expected to be commissioned in 1998. In addition to these, it is proposed to commence construction of 2×500 MWe capacity at Tarapur (Units—3&4), 2×220 MWe capacity at Kaiga (Units—3&4), 2×1000 MWe Kudankulam Atomic Power Project in co-operation with the Russian Federation and also one unit of 500 MWe Prototype Fast Breeder Reactor (PFBR).

Reviewing the Atomic Policy

1326. SHRI SANJAY DALMIA: Will the PRIME MINISTER be pleased to state:

(a) whether in view of the prevailing international situation Government propose to review the atomic policy of the country;

(b) if so, the details thereof; and

(c) if not, the reasons therefor?

THE MINISTER OF STATE OF THE MINISTRY OF PLANNING AND PROGRAMME IMPLEMENTATION AND MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI YOGINDER K. ALAGH): (a) Government do not propose to review the present nuclear policy of the country.

(b) Does not arise.

(c) Does not arise.

Development of Atomic Energy by Indian Scientists

1327. SHRI O.P. KOHLI: Will the PRIME MINISTER be pleased to state the progress made by the scientists for the development of atomic energy for peaceful purposes, like generation of power, which is the dire need of the country?

THE MINISTER OF STATE OF THE MINISTRY OF PLANNING AND PROGRAMME IMPLEMENTATION AND MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI YOGINDER K. ALAGH): In the field of nuclear power technology, India has developed comprehensive capability in design, construction and operation of pressurised heavy water reactors (PHWR). The nuclear power plants in the country have generated a total of over 1,11,000 Million Units of electricity since commencement of operation, with a good record of safety. The country has acquired comprehensive capability in design and operation of all associated plants/facilities (apart from reactors) covering the entire fuel cycle comprising mining, milling and concentration of ore, fabrication of fuel, production of heavy water, reprocessing of spent fuel and management of nuclear waste. It is also engaged in the development of fast breeder reactors and advanced therium reactors. The radio isotopes produced in the research reactors are used for applications in medicine, agriculture and industry. Research in related frontier areas like accelerators, lasers, bio-technology, computers and information technology and material technology is also being carried on by Indian scientists.